

MST Recommended Curriculum Changes

Discussion Paper

August 3, 2017

Background Information

The following recommended changes to the MST Curriculum have been made by the Trade Advisory Committee (TAC). Please consider these changes and send any feedback via reply email by September 1, 2017.

Final approval and changes will be made by the end of September, based on submitted feedback.

New Certification Examination that reflects the approved changes will be available by January 2018. The Current Examination will be available until that time.

Note: The Trade Advisory Committee (TAC) will evolve a Joint Apprenticeship Training Committee (JATC) which will monitor and promote the training in both of the marine trades – Boat Builder and Marine Service Technician.

Click here for the current [Marine Service Technician Curriculum Standard](#).

Level 1: MST - TAC Recommendation

Remove Forklift Certification from Level 1- Unit C-2: Secure and Block Vessels.

Many worksites for MST's do not use forklifts and, when they do, training and certification to operate one is required by OHS legislation. Several private companies offer forklift training and most employers opt to have one of these companies certify their employees. Certification is therefore an unnecessary burden for an apprentice or his/her employer when they don't have a forklift truck at their worksite.

Level 2: MST - TAC Recommendations

Change Unit E-4: Perform Layout and Fitting Operations from a compulsory unit to an elective unit?

These are useful skills for any MST as even those who do not work on structural repairs or modifications, occasionally have to make a pattern for a small cover, support bracket or similar item. However, this is not a skill required by every MST.

Change Unit G-2: Describe & Select Wood Repair Materials from a compulsory unit to an elective unit?

These skills are mostly required by someone doing major repairs or modifications to wooden boats. Some MST's may do this work and need this skill, this type of work is often done by boat builders.

Change Unit Q-1: Install & Service Fresh Water Systems from an elective unit to a compulsory unit?

Change Unit Q-2: Install & Service Waste Plumbing & Pumps from an elective unit to a compulsory unit?

When the curriculum for the MST program was being developed, it was thought that only MST's working on larger vessels would need to know how to install and repair plumbing systems. The MST TAC members who work in the field, believe that all MST's do this work and therefore need this knowledge.

Level 3: MST - TAC Recommendations

Change Unit D-9: Describe Marine Computer Applications from a compulsory unit to an elective unit?

Young people coming into the industry have a good basic knowledge of how computers work and how to use them effectively. As well, onboard vessel control systems require OEM training to work on them effectively. Therefore, there is no need for compulsory generic training for everyone.

Change Unit L-6: Service Inboard Engine Components from an elective unit to an compulsory unit?

Change Unit L-8: Service Mechanical Engine Controls, Alarms & Gauges from an elective unit to an compulsory unit?

Change Unit L-9: Install & Service Steering Gear from an elective unit to an compulsory unit?

These three recommendations can be considered together since they all involve work on boats with inboard engines. The MST - TAC feel that all MSTs' should know to service boats with inboard engines.

Please send comments, concerns, and questions to:
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Summary of Changes

Competency Units by Level

LEVEL 1 - Compulsory Units (Note: There are no elective units in Level 1)	
A-1	Prevent Workplace Injuries
A-2	Handle Hazardous Materials Safely
A-3	Use & Maintain Personal Protection Equipment
A-4	Respond to Workplace Emergencies
A-5	Describe the Workers Compensation Board
B-2	Maintain Professional Approach
B-5	Computer Basics
C-2	Secure & Block Vessels (Remove Forklift Certification - Page 27)
C-4	Operate Power and Sail Vessels (PCOC)
C-7	Boat Trailer Handling
D-1	Define Trade Terminology & Concepts
D-3	Interpret Technical Drawings
E-1	Perform Basic Math Calculations
E-2	Perform Density, Area & Volume Calculations
E-3	Perform Measurement Operations
F-1	Use Common Hand Tools
F-3	Use Portable Power Tools
G-1	Identify Properties of Common Woods
G-3	Describe Thermosetting Resin Types, Additives & Cure Factors
G-4	Identify Reinforcement Types, Styles, Design Considerations
J-1	Identify & Describe Rot & Deterioration Damage in Wood
K-7	Clean & Maintain Gel Coat Surfaces
L-1	Identify Engine Components
L-4	Identify & Describe Drive Train Types & Components
M-2	Select & Apply Anti-fouling Paints
O-1	Describe Workplace AC Systems & Maintain Equipment
O-2	Identify Relationship of Current, Resistance & Voltage
M-1	Apply Coatings by Brush and Roller

LEVEL 2 - Compulsory Units	
D-2	Describe Design Basics
D-4	Describe Principles of Powering
E-4	Perform Layout and Fitting Operations
F-4	Describe Compressed Air Delivery Systems
G-2	Describe & Select Wood Repair Materials
G-6	Describe Properties & Compatibility of Marine Metals
G-7	Describe & Select Single Component Coatings & Preservatives
G-8	Describe & Select Fasteners
G-9	Select & Use Adhesives & Bedding Compounds
G-10	Select & Use Abrasive Materials
I-1	Perform Drilling & Cutting Operations in Metals
L-2	Describe Engine Room Layout & Ventilation
L-16	Install and Service Outboard Engines
K-9	Repair Single Skin Structural Damage in Composites
O-3	Perform Basic Wiring & Testing Procedures
Q-1	Install & Service Fresh Water Systems
Q-2	Install & Service Waste Plumbing & Pumps
LEVEL 2 - Elective Units	
E-4	Perform Layout and Fitting Operations
F-5	Use Spray Gun
G-2	Describe & Select Wood Repair Materials
K-1	Repair Damage to FRP Laminates
K-3	Repair Composite Sailboat Fin Keel & Supporting Structure
K-5	Evaluate & Repair Osmosis Damage
L-10	Service Engine Mounts, Shafting & Alignment
L-11	Service Propellers
L-19	Service Boat Trailers
P-1	Step, Unstep and Store Masts
P-2	Install and Service Rigging
Q-1	Install & Service Fresh Water Systems
Q-2	Install & Service Waste Plumbing & Pumps

LEVEL 3 - Compulsory Units	
D-5	Describe Wood Vessel Construction
D-6	Describe FRP Vessel Construction
D-7	Describe Metal Vessel Construction
D-9	Describe Marine Computer Applications
F-2	Use Common Stationary Power Tools
I-4	Prevent Corrosion in Metals
L-5	Perform Engine Pre-Start Inspection
L-6	Service Inboard Engine Components
L-7	Describe Engine Lubrication
L-8	Service Mechanical Engine Controls, Alarms & Gauges
L-9	Install & Service Steering Gear
N-1	Install Hardware & Fittings
N-2	Install Thru-hulls & Underwater Equipment
O-5	Describe Battery Installations
Q-4	Describe Propane Distribution Systems
LEVEL 3 - Elective Units	
D-8	Perform Lofting Operations
D-9	Describe Marine Computer Applications
H-1	Fabricate Plug, Mold, & Composite Parts
H-4	Perform Vacuum Bag Laminating
I-5	Apply Fairing and Finishing Materials to Metals
I-6	Perform Oxy-Acetylene Cutting
J-2	Perform Structural Repairs in Wood
K-2	Repair/Rebuild FRP Reinforcing Structures
K-4	Repair and Replace FRP Rudders
L-3	Remove & Install Engines
L-6	Service Inboard Engine Components
L-8	Service Mechanical Engine Controls, Alarms & Gauges
L-9	Install & Service Steering Gear
L-13	Install and Service Hydraulic Systems
Q-5	Install & Service Heating Systems
Q-6	Install & Service Refrigeration & A/C Systems